

In the claims:

Following is a complete set of claims as amended with this Response.

1. (Currently Amended) A method comprising:

receiving an incoming call at a voice mail port of a voice mail system from a connected private telephone switch, the switch being coupled between the PSTN (Public Switched Telephone Network) and a plurality of individual subscriber telephones, the incoming call coming to the switch through the PSTN, the voice mail system having greeting and message storage for at least some of the plurality of individual subscriber telephones, the incoming call being directed to one of the plurality of individual subscriber telephones;

assigning the call to a first voice mail port of the voice mail system;

receiving a call handle associated with the incoming call at the voice mail system from the switch;

receiving a personal selection from the caller during the call;

associating the personal selection with the call handle in a voice mail system database;

transferring the call to the switch;

releasing the first voice mail port from the call;

receiving the same call again from the switch;

assigning the incoming call to a second voice mail port of the voice mail system;

receiving a the same call handle associated with the incoming call at the voice mail system from the switch;

receiving an indication from the switch that of whether the incoming call has been previously handled by the voice mail system;

applying the call handle to a database of the voice mail system to retrieve the previously received personal selection caller information stored in the voice mail system database that is associated with the call handle, in response to the indication that if the incoming call has been previously handled by the voice mail system; and

using the retrieved personal selection caller information at the voice mail system to handle the incoming call if caller information associated with the call handle is found;

and

asking the caller to enter personal selections, if the incoming call has not been previously handled by the voice mail system.

2. (Previously Presented) The method of claim 1, wherein receiving a call handle comprises receiving a tone sequence at a port of the voice mail system, decoding the tone sequence, and deriving the call handle from the decoded tone sequence.

3. (Previously Presented) The method of claim 2, wherein the tone sequence is a DTMF tone sequence transmitted to the port over the same transmission line as the incoming call.

4. (Original) The method of claim 1, wherein receiving a call handle comprises receiving a call handle message through a digital interface.

5. (Previously Presented) The method of claim 4, wherein the digital interface comprises a digital backplane connection to a switch from which the incoming call was received.

6. (Currently Amended) The method of claim 1, further comprising wherein receiving a personal selection comprises requesting data from the caller and storing received data in association with the call handle.

7. (Currently Amended) The method of claim 1, wherein using the retrieved personal selection ~~caller information~~ comprises providing audio information in a language previously selected by the caller.

8. (Currently Amended) The method of claim 1, ~~if no caller information associated with the call handle is found,~~ further comprising, if no personal selection associated with the call handle is found:

requesting caller information from the caller;

storing received caller information in association with the call handle; and

using the received caller information to handle the incoming call.

9. (Previously Presented) The method of claim 1, wherein receiving an indication of whether the incoming call has been previously handled comprises receiving an indication of whether the incoming call has been forwarded from one of the plurality of individual subscriber telephones.

10. (Currently Amended) The method of claim 9, ~~if no caller information associated with the call handle is found,~~ further comprising, if no personal selection associated with the call handle is found:

requesting caller information from the caller;

storing received caller information in association with the call handle; and

using the received caller information to handle the incoming call.

11. (Currently Amended) A machine-readable medium having stored thereon data representing instructions which, when executed by a machine, cause the machine to perform operations comprising:

receiving an incoming call at a ~~voice mail port~~ of a voice mail system from a connected private telephone switch, the switch being coupled between the PSTN (Public Switched Telephone Network) and a plurality of individual subscriber telephones, the incoming call coming to the switch through the PSTN, the voice mail system having greeting and message storage for at least some of the plurality of individual subscriber telephones, the incoming call being directed to one of the plurality of individual subscriber telephones;

assigning the call to a first voice mail port of the voice mail system;

receiving a call handle associated with the incoming call at the voice mail system from the switch;

receiving a personal selection from the caller during the call;

associating the personal selection with the call handle in a voice mail system database;

transferring the call to the switch;

releasing the first voice mail port from the call;

receiving the same call again from the switch;

assigning the incoming call to a second voice mail port of the voice mail system;

receiving a the same call handle associated with the incoming call at the voice mail system from the switch;

receiving an indication from the switch that of whether the incoming call has been previously handled by the voice mail system;

applying the call handle to a database of the voice mail system to retrieve the previously received personal selection caller information stored in the voice mail system database that is associated with the call handle, in response to the indication that if the incoming call has been previously handled by the voice mail system; and

using the retrieved personal selection caller information at the voice mail system to handle the incoming call ~~if caller information associated with the call handle is found;~~

and

asking the caller to enter personal selections, if the incoming call has not been previously handled by the voice mail system.

12. (Currently Amended) The medium of claim 11, wherein if no ~~caller information~~ personal information associated with the call handle is found, the instructions, when executed by the machine, cause the machine to perform further operations comprising:

requesting caller information from the caller;

storing received caller information in association with the call handle; and

using the received caller information to handle the incoming call.

13. (Previously Presented) The medium of claim 11, wherein if the incoming call has not been previously handled by the voice mail system, the instructions, when executed by the machine, cause the machine to perform further operations comprising:

requesting caller information from the caller;

storing received caller information in association with the call handle; and

using the received caller information to handle the incoming call.

14. (Currently Amended) An apparatus comprising:

a voice mail system port to receive an incoming call from a connected private telephone switch, the switch being coupled between the PSTN and a plurality of individual subscriber telephones, the incoming call coming to the switch through the PSTN (Public Switched Telephone Network), ~~the voice mail system having greeting and message storage for at least some of the plurality of individual subscriber telephones, the incoming call being directed to one of the plurality of individual subscriber telephones;~~

greeting and message storage of the voice mail system for at least some of the plurality of individual subscriber telephones;

a first voice mail port of the voice mail system to receive an assignment of the incoming call, and a call handle associated with the incoming call from the switch ~~and an indication from the switch of whether the incoming call has been previously handled by the voice mail system, the first voice mail port also receive a personal selection from the caller during the call, to transfer the call to the switch and to receive a release of the assignment;~~

a memory of the voice mail system containing personal selections ealler information associated with call handles;

a second voice mail port to receive an assignment of the same call again from the switch, to receive the same call handle associated with the incoming call from the switch, and to receive an indication from the switch that the incoming call has been previously handled by the voice mail system; and

a processor of the voice mail system to associate the personal selection from the first voice mail port with the call handle and store it in the memory, to apply the call handle received at the second voice mail port to the memory to retrieve the personal selection ealler information that is associated with the call handle and to use the retrieved personal selection ealler information to handle the incoming call if the incoming call has been previously handled by the voice mail system and to ask the caller to enter personal selections, if the incoming call has not been previously handled by the voice mail system.

15. (Previously Presented) The apparatus of claim 14, wherein the voice mail system port to receive the call handle comprises a digital interface.

16. (Previously Presented) The apparatus of claim 15, wherein the digital interface comprises a digital backplane connection to the switch.

17. (Currently Amended) A method comprising:

receiving an incoming call at a private telephone switch through the PSTN (Public Switched Telephone Network), the incoming call being directed to one of a plurality of individual subscriber telephones that are coupled to the switch;

generating a call handle for the incoming call at the switch;

routing the incoming call to a port of a connected call handling system, the call handling system having greeting and message storage for at least some of the plurality of individual subscriber telephones;

sending the call handle to the call handling system in association with the routed incoming call;

receiving a transfer of the call from the call handling system;

routing the same call to a second port of the connected call handling system;

sending the same call handle to the call handling system in association with the routed call; and

sending an indication to the call handling system of whether the ~~routed~~ incoming call routed to second port has been previously handled by the call handling system ~~voicemail system~~ in association with the routed incoming call.

18. (Previously Presented) The method of claim 17, wherein sending the call handle comprises deriving a tone sequence for the identification, coding the tone sequence into tones and sending the tone sequence as a set of in-band signaling tones to the call handling system port.

19. (Previously Presented) The method of claim 18, wherein the tone sequence is a DTMF tone sequence transmitted to the call handling system port over the same transmission line as the incoming call.

20. (Original) The method of claim 17, wherein sending the call handle comprises sending an identification message through a digital interface.

21. (Previously Presented) The method of claim 20, wherein the digital interface comprises a digital backplane connection to the call handling system.

22. (Currently Amended) A machine-readable medium having stored thereon data representing instructions which, when executed by a machine, cause the machine to perform operations comprising:

receiving an incoming call at a private telephone switch through the PSTN (Public Switched Telephone Network), the incoming call being directed to one of a plurality of individual subscriber telephones coupled to the switch;

generating a call handle for the incoming call at the switch;

routing the incoming call to a port of a connected call handling system, the call handling system having greeting and message storage for at least some of the plurality of individual subscriber telephones;

sending the call handle to the call handling system in association with the routed incoming call;

receiving a transfer of the call from the call handling system;

routing the same call to a second port of the connected call handling system;

sending the same call handle to the call handling system in association with the routed call; and

sending an indication to the call handling system of whether the routed incoming call routed to second port has been previously handled by the call handling system voice mail system in association with the routed incoming call.

23. (Previously Presented) The medium of claim 22, wherein the instructions for sending the call handle comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising sending an identification message through a digital interface.

24. (Original) The medium of claim 23, wherein the digital interface comprises a digital backplane connection to the call handling system.

25. (Currently Amended) An apparatus comprising:

a port to receive an incoming call at a private telephone switch through the PSTN (Public Switched Telephone Network), the incoming call being directed to one of a plurality of individual subscriber telephone that are coupled to the switch;

a call handle generator to generate a call handle for the incoming call at the switch;

a switching network to route the incoming call from the receiving port to a port of a connected call handling system, the call handling system having greeting and message storage for at least some of the plurality of individual subscriber telephones, the switching network further to receive a transfer of the call from the call handling system and to subsequently re-route the call to another port of the call handling system; and

an interface to send the same generated call handle each time the call is routed to the call handling system and an indication of whether the incoming call has been previously handled by the call handling system to the port of the call handling system in association with the routed incoming call.

26. (Original) The apparatus of claim 25, wherein the interface comprises a digital interface.

27. (Original) The apparatus of claim 26, wherein the digital interface comprises a digital backplane connection to the call handling system.

28. (Previously Presented) The method of claim 1, further comprising releasing the incoming call to the switch and, after a sufficient time, deleting caller information associated with the call handle.

29. (Previously Presented) The medium of claim 11, wherein the instructions further comprise instructions which, when executed by the machine, cause the machine to perform further operations comprising releasing the incoming call to the switch and, after a sufficient time, deleting caller information associated with the call handle.

30. (Previously Presented) The method of claim 17, further comprising releasing the incoming call and, after a sufficient time, reusing the call handle for another call.

31. (Previously Presented) The medium of claim 22, further comprising releasing the incoming call and, after a sufficient time, reusing the call handle for another call.

32-35. (Canceled)

36. (New) The method of Claim 1, wherein assigning the incoming call to a second voice mail port comprises assigning the incoming call to a different voice mail port than the first voice mail port.

37. (New) The method of Claim 1, further comprising, after using the personal selection, transferring the call to the switch and releasing the second voice mail port from the call.

38. (New) The method of Claim 17, further comprising reusing the call handle for another call after the call has terminated.

39. (New) The method of Claim 25, wherein the call handle generator reuses the call handle for another call after the call has terminated.